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A GUIDE TO EDUCATIONAL TELEVISION.

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KANSAS' FIRST EDUCATIONAL TV STATION, KTWU, IS DESCRIBED. KTWU PROVIDES A SCHOOL SERVICE, SOME SEVENTEEN SUBJECTS DESIGNED FOR GRADES ONE TO TWELVE, AND A COMMUNITY PROGRAM SERVICE, WITH PROGRAMS FOR GENERAL ENRICHMENT. SUGGESTIONS FOR TV INSTALLATIONS IN SCHOOLS AND COMMUNITIES ARE MADE, AND FURTHER APPLICATIONS OF EDUCATIONAL TV IN KANSAS ARE DISCUSSED. (MS)

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A Guide to Educational Television

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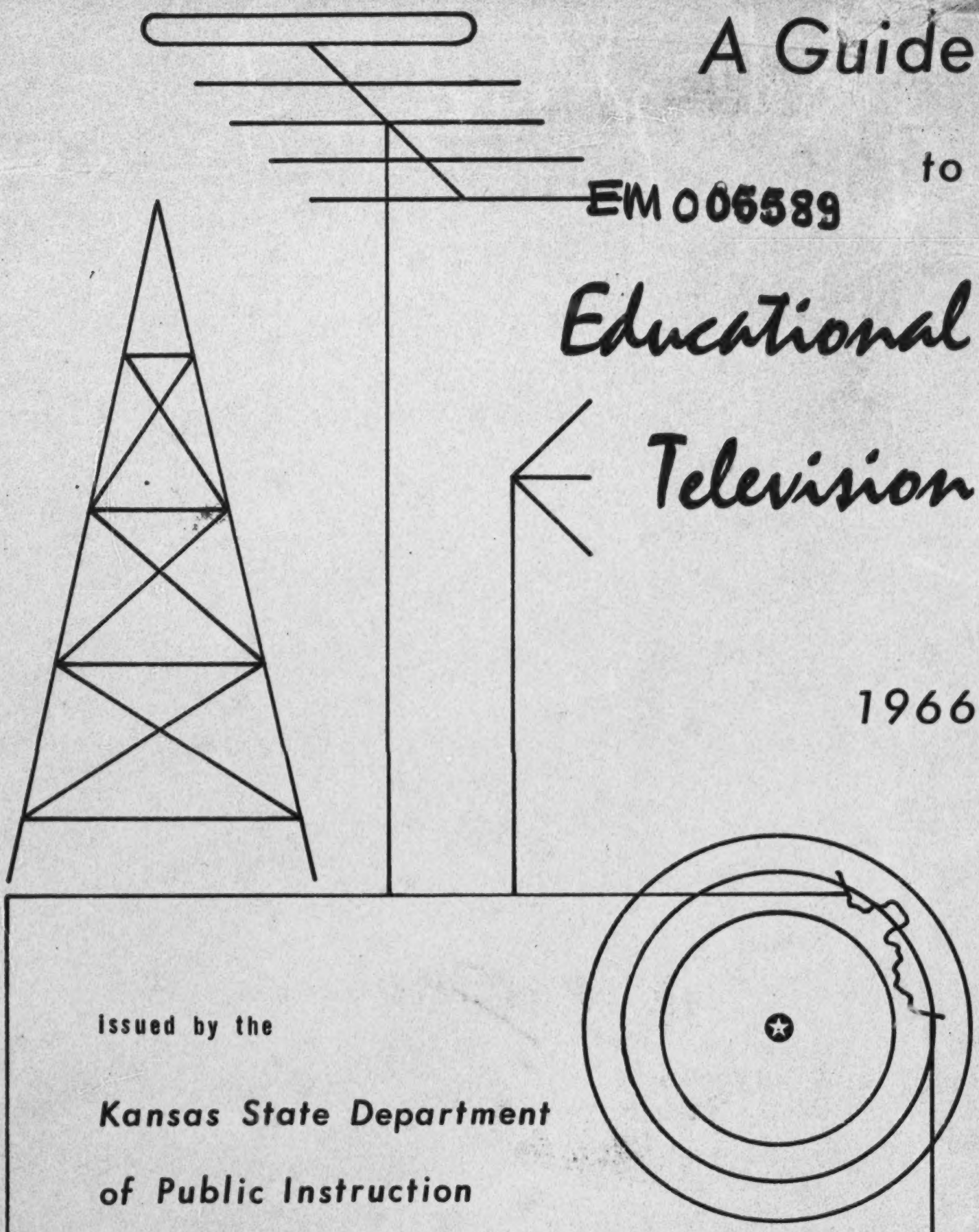

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A GUIDE to Educational Television

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EM 005 589

FOREWORD

Kansas education is faced with the explosion of knowledge, as are schools everywhere. What media of communication we use for transmitting this knowledge is of paramount importance. Faster and more effective learning is necessary. Newer media of communication now available can help this need for increased understanding.

If Rip Van Winkle had fallen asleep in 1946, waking in 1966, would he find many familiar scenes and practices? Listening to harmonica solos from Gemini, hearing of telemetered messages from spacecraft being fed into computers on the ground, viewing TV programs bounced off the Early Bird satellite from across the ocean, looking with amazement at TV and newspaper photographs transmitted from the surface of the moon -- how would Rip react when comparing classroom communications with what he knew twenty years ago? He might feel more at home in certain classrooms.

Television as a medium of communication into the classroom is now with us for the first time from a Kansas educational station. The programs need our support. Let's keep the programs going, and help future expansion over the State of Kansas. To this end this preliminary Guide is issued.

Calvin F. Brockmeyer
State Superintendent

Educational television from a Kansas station is now a reality in Kansas. KTWU, licensed to Washburn University of Topeka, now broadcasts on Channel 11. It is the first educational station in Kansas, and the one hundred twenty fifth non-commercial station in the nation.

Educational Television

a Welcome Reality

in Kansas

Channel 11, with full power and a one-thousand-foot tower, currently serves an 80-mile radius in northeastern Kansas. Among the larger communities are those of Topeka, Lawrence, Manhattan, Greater Kansas City, St. Joseph, Emporia, Ottawa, Junction City, and Atchison. The total population within the KTWU signal radius exceeds 1,500,000 persons. The possible Kansas school population totals approximately 200,000 students.

KTWU was activated with funds secured from private sources and a Federal matching grant. No state tax funds have been involved in the activation or operation of the station. To date, over $450,000 has been invested in the capital construction of Channel 11. It is estimated that an additional $200,000 will be expended before adequate facilities are completed.

Although licensed to Washburn University of Topeka, the station is operated and organized in the same manner as a community non-profit station. This is to say that its operating and capital expansion funds are raised directly from private community grants and donations, and no public funds used to operate Washburn University are budgeted for the station. Annual operating costs are currently budgeted at $100,000 per year.

KTWU inaugurated full operation on October 21, 1965. Its service currently extends from 9:00 A.M. to 3:15 P.M., Monday through Friday, for School Services, and from 5:30 P.M. to 9:00 P.M., Monday through Friday, for Community Services. The station will expand both daily programming, and initiate weekend schedules at such time as community financial support will permit. As a non-profit, educational facility all funds raised for station operation are utilized expressly for that purpose, and donations for this purpose are tax-deductible.

Curriculum planning for the school programs is carried out in co-ordination with the State Department of Public Instruction. To insure maximum liaison, a representative of the Department has been appointed to the Curriculum Council of the station. In addition, any curriculum committee appointed by the Council to investigate an individual subject area, also has a subject specialist from the Curriculum Section of the State Department to insure that all programs meet or exceed state requirements.

KTWU, CHANNEL 11 PROGRAM SERVICES

KTWU has two separate and distinct program services:

The School Service operates the station from 9:00 A.M. until 3:30 P.M. each day, Monday through Friday. It carries programs designed for grades 1 through 12, which presently include some 17 separate subjects.

Operating cost of the School Services, which includes salaries, station operation and maintenance, and program acquisition are covered by a per-pupil assessment to participating school districts of $1.50 per student enrolled each year. The current school service budget exceeds $80,000 a year.

Teachers' guides are provided for all classrooms participating in the School Service. These guides enable the teacher to know the content of the program ahead of using, and are absolutely essential to the best utilization of the lessons. Suggestions for supplementary learning activities are given. Their acquisition and use is definitely recommended.

The Community Program Service controls all station time not utilized by the school service, and more specifically the hours from 5:00 P.M. to 10:00 P.M., Monday through Friday. This service carries both child and adult programming for general enrichment and entertainment.

Operating costs for this service are raised each year from various community sources such as individual donations, civic associations, and business grants.

Programming for the Community Service is primarily established by the management of KTWU, with direction and recommendations from the Station Advisory Committee, made up of leading citizens of the northeastern Kansas community. Program guides are available from the station monthly, and sent to each person subscribing for the service. Address Ian N. Wheeler, Manager, Station KTWU, Topeka, 66604, for further information desired.

Channel 11, Topeka
SCHOOL SERVICE SCHEDULE
Second Semester 1965-66

Subject	Grade level	Day	Time	Title
Science	(Sr-Hi)	Monday	9:00- 9:30	Survival in the Sea
		Thursday (repeat)	2:00- 2:30	(Marine Biology)
Science	(6)	Mon-Wed	9:30- 9:50	The Adventure of Science
		Tues-Thurs(repeat)	1:15- 1:35	
Story Hour	(1-2)	Monday	10:15-10:30	Children's Literature
		Thursday (repeat)		
Spanish	(5)	Mon-Wed-Fri	10:30-10:45	Una Aventura Espanola
		" "(repeat)	3:00- 3:15	
English Lit.	(Sr-Hi)	Mon-Wed	1:15- 1:45	From Franklin to Frost
		Tues-Thurs(repeat)	10:30-11:00	
Music	(1-3)	Tues-Thurs	9:30- 9:50	Singing, Listening, Doing
		" " (repeat)	2:30- 2:50	
Social Studies	(Sr-Hi)	Tuesday	9:00- 9:30	Anatomy of Revolution
		Friday (repeat)	1:15- 1:45	
Art	(4-5-6)	Tuesday	10:00-10:15	Art at your Fingertips
		Thurs. (repeat)	3:00- 3:15	
Social Studies	(4-5-6)	Monday	2:00- 2:20	Americans All
		Tues. (repeat)	11:00-11:20	
Economics	(Sr-Hi)	Tuesday	2:30- 3:00	The American Business
		Wed. (repeat)	9:00- 9:30	System
Physical Ed.	(1-2)	Alternate Wed	10:00-10:15	Physical Education
		" "	1:45- 2:00	
Physical Ed.	(3-4)	Alternate Wed	10:00-10:15	Physical Education
		" "	1:45- 2:00	
Physical Ed.	(5-6)	Friday	10:00-10:15	Physical Education
			1:45- 2:00	

4th Grade Spanish

Quinton Heights School

Topeka

Una Aventura Espanola

Spanish Program

Mon-Wed-Fri

Teachers and pupils have evaluated their experiences with educational television. From Osage City come the following reactions:

From one of the teachers, science in grade 7 and 8: "After discussing our use of television lessons in 7th and 8th grade science classes with the pupils, I have come to the conclusion that they feel fortunate to have an opportuntiy to gain what they call 'extra information'. We have used the television lessons much as we use other audiovisual materials: filmstrips, motion pictures, bulletin boards, charts, etc. These, like television, add to the learning experiences of our pupils. It has been an effective enrichment experience for our science and social studies classes in the 7th and 8th grades.

I feel that a second year's use of the television in our school will be even more profitable and effective. With more time for advance curriculum planning and rearrangement of schedules, we will be ready for maximum utilization of equipment and classroom organization."

From a second grade teacher: "We participate in music, physical education and children's literature on KTWU-ETV at second grade level. Music is presented twice weekly. The program is excellent. The children are interested and responsive. Physical education offers a good program which we use both for indoor and outdoor play. Children's literature is only a story hour. We hope classical literature and poetry for children will be offered another semester".

From a teacher in grade 6: "I am grateful that I have the opportunity to supplement my own teaching with guest teachers who are experts in their field. Educational television has given classwork new depth and perspective. I have seen students who were formerly disinterested or definitely bored by history, become vitally interested when television made them aware

of the human qualities of historical personalities. Because of the interest in space aroused by science programs on KTWU, some students asked for books on astronomy for Christmas, and some were fortunate enough to receive home telescopes as gifts. Each program stimulates thought and experimentation. This is the test of good teaching".

From students' responses to the TV lessons, grades 7 and 8: "I like the television lessons because they get me ready for the lessons to come. I can remember the lessons I watch on TV better than those I read. The teacher on TV explains the science experiments more clearly than a book does. It is a 'fun way to learn science'."

Sharp Image

70 Miles from Topeka

Hamlin -- 8th Grade

"I think the educational television system has taught me a lot. The lessons progress pretty fast so I think the review session we have in our class afterwards to talk about and check on what we have seen is helping us".

Followup Activity

2nd Grade Music

Osage City

"The programs should be longer so as to explain fully some of the topics they can manage only to mention now".

"I feel fortunate to be in the class using TV. It is much more interesting. I find the historical shows give me more information than I could dig out of a history book".

"ETV is like having two classes and learning twice as much. I'm glad to be in a class using ETV. Keep up the good work!"

"I like Science TV because the instructor shows experiments with equipment that we do not have in our science room. I was interested in seeing telescopes in the famous observatories and how they are used".

"I think the science program is very interesting. There are many subjects that I have known little about until we had the TV science programs. Twenty minutes isn't enough time for the program because it rushes the television teacher and doesn't give him time to explain some things. This leaves us kids hanging in the air".

"I think the program should be longer because the time goes so fast. When you want to learn more, the program is over. You have to watch and listen every minute or else you miss out on something".

"The teacher on our science TV program is very nice and happy. He isn't one of those cranky people. The program's stage crew has good equipment to work with, but on one of their previous shows, I think they turned off the lights too much. If I were in charge I would keep the lessons going because they are a lot of help to us".

"We need these TV programs because it brightens the day from teachers we listen to every day. It's fun to watch".

"If this program for education keeps on, I think it might cut down on teachers which I think is all right. ETV is the best source of extra information to be found. So ETV -- keep up the good work!"

From sixth grade students:

"I think the educational TV is worth while. I do not care for the science program that is on from 9:00 to 9:30, but the one from 9:30 to 9:50 is very interesting. It is the one that is taught by John Burns. He shows some very interesting projects. The history programs are good. When you get into high school you may remember some of the things you

learned. Physical education I think is good. But sometimes I don't like it. 'Art at Your Fingertips' is good. Sometimes when you don't have anything to do at home you can always do some art that you learned on TV".

Followup Activity

6th Grade Science

Osage City

"I like educational TV. I especially like the science program for 6th graders and the history programs. But one thing I don't like is the Russian History program. I think you receive more knowledge from television than from reading textbooks, especially for people who don't like to read. I don't like the art programs because I don't understand what she's talking about. I don't think it tells you very much about real art. Once in a while the art program is good, though. I like the history program because it tells the life of the famous person. At home my mother

watches an antique show."

"I like educational TV because the teachers explain things and they do something to make it more interesting than just reading it out of books. I don't like the history in our book, but I like the history on TV. For one reason it has pictures to show and explain things. It's the same thing in science. It is faster than reading. It is also more fun. I wish we had it all the time instead of books".

Adventure of Science

6th Grade Program

Osage City

USING TV IN THE CLASSROOM

Educational television has certain advantages: It gives every pupil a front seat location, by magnifying and positioning objects and happenings so every pupil has essentially the same view. It intensifies the teacher-pupil relationship, for when the television teacher looks into the lens of the camera, he is looking straight into the eyes of each pupil, not just one at a time. It brings the expert teacher who has spent hours of planning and research for the one comparatively short presentation. It can bring the home and school together, as the parent can view the program also at home, if the program is from a broadcast source. It can stimulate the classroom teacher to be more creative, and give the receiving teacher new ideas and new techniques. Other advantages could be listed.

Educational television has some disadvantages or requirements: It takes time and trouble for scheduling. Lessons prepared for a general grade level may not fit a specific level in a classroom. High quality instruction by the best qualified television teacher does not necessarily guarantee the best learning; it takes effort also on the part of the receiving teacher. The classroom teacher's workload will not be lessened with one less preparation, but may be increased as he attempts to make the most out of the teacher's guide and the lesson period. As with other examples of this mechanical and electronic age, there may be hardware problems. Yet none of these difficulties is insurmountable. Problems such as above are inherent in most good teaching.

Certain comparisons can be made with other media, particularly sound films. Sound films furnish color, while present educational television is almost entirely black-and-white. Television can be more immediate, as it can bring current happenings into the classroom sooner than they can be

marketed by way of film production. A combination of the two or with other media is recommended--the multi-media approach.

As Adah L. Miner points out in Educational Leadership, "The television teacher's objective is to stimulate, to motivate, to ask open-ended questions, to present learning situations which will challenge the class

High School Followup

Involves Learners

Osage City

to further research, discussion or exploration. In short, his job is to involve the learner as an active participant in the lesson. The television teacher's greatest challenge is to construct each lesson so that throughout the entire production a maximum learning opportunity is provided for the pupil."

Regarding the classroom or receiving teacher, she says: "the classroom teacher, on the other hand, becomes a learner with his students, a

learner who can individualize the television instruction by preparing the class for the lesson to come and by extending those areas of learning most suited to his class. He knows that some of his students learn best by viewing and listening, while others need to read, to discuss or to experiment in order to know. He can capitalize on the motivation and social value accorded to television by the students to develop advanced learning situations not otherwise available."

As mentioned before, this is not an easy job for the receiving teacher. As with any good teaching, the adaptation, the individualization, the followup take time and energy--and creativity. Both the television teacher and the classroom teacher best serve their roles if they serve as a team or partnership.

Active involvement brings problems also for the student. No part of the lesson can be repeated; he must concentrate on the presentation. Students often see this value for themselves. Some students need experience in viewing and listening, so the best outcomes of a TV lesson may have to be taught. He must often adjust to the rate of presentation which is often much faster or more concentrated than what he is accustomed to. It is largely a one-way process; the student has to learn to save his questions and followup for the discussion period. In this way, the teacher makes a two-way process out of the situation. He may also have to learn new techniques of viewing and listening, as compared with home television. As with other media of learning, he must evaluate data and postpone generalizations.

SUGGESTIONS FOR ADMINISTRATORS

PURCHASING: The following list is one supplied by the Topeka Public Schools, and compiled by Ted Clark, electrical engineer for the system:

GENERAL SPECIFICATIONS:

1. Minimum screen size 23", table model VHF-UHF, with screen hood
2. Educational model with special features such as anti-tampering devices
3. Minimum 14 watts peak-to-peak audio amplification system; 72 ohm and 300 ohm input facilities. Separate accessories system for controls and phono input, tape input, tape recorder output, and external speaker outlets and selector switches
4. Power transformer type supply
5. Front controls and concealed secondary control panel
6. Front mounted speakers with six ounce magnet capable of handling full audio amplification output without distortion
7. Electric supply wiring to be heavy duty, 3-wire, groumding type cord for NEMA ground type outlet
8. Furnish with classroom type rolling stand, 4-inch industrial castors minimum size, minimum of two locking wheels; height 50" minimum
9. Bid price to include delivery and setting checked and ready for operation at each location
10. Set shall carry 90-day free guarantee of parts and service; picture tube shall carry one-year replacement guarantee; all other electrical parts 90-day guarantee
11. Price quotation both with service only and with parts and service
12. Time limit for installation

"TYPICAL" PROJECT: The Board of Education (Osage City) authorized the superintendent to proceed with the necessary arrangements to provide at least partial ETV participation in both the high school building and the elementary school. It was decided to advertise for bids on a package deal to provide the necessary antennas and lead-in cable to each classroom in both buildings, and to provide seven receivers for the elementary school and two receivers for the high school for a total of nine receivers.

Specifications were drawn up and sent to local radio and television dealers along with a letter of transmittal and an accompanying specifications sheet. The low bid received and accepted for this package deal included the nine receivers, a 23" model, with power transformers, two antennas, and two coaxial cable lead-in systems to provide plug-in type lead-ins in each of the 32 teaching or monitoring stations in two buildings.

Nine TV tables were purchased, one for each set. These are portable on large rubber tired castors with locks on wheels and a broad base for position stability.

The total installation amounted to $2,575.05 and had us in business in good shape. We are now providing programs with excellent reception to some 728 pupils, K-12. We are providing receivers for teaching stations as follows:

K - 6: 1 set for each 2 teaching stations

7 - 8: 1 set for each 4 teaching stations

9 -12: 1 set for each 6 teaching stations

In another year we expect to provide some additional sets with some help from NDEA funds if possible. But the big expense is now over so far as antenna systems are concerned. Teachers' guides are provided for every teacher participating.

FRINGE AREA RECEPTION: Currently, Channel 11 has a signal radius of approximately 80 miles. In some instances, schools beyond this radius or the acceptable radius of any other station, can receive a clear picture if high-gain antennas are used. In all cases involving fringe-area reception, master-antenna systems, feeding two or more receivers, should be contemplated. If questions arise involving the signal strength of the station in relation to your school system, contact a local television service representative to determine the proper installation for your school.

COMMUNITY ANTENNA TELEVISION: Many communities receive television service via local television "cable" companies that provide the services of various stations to area homes by direct cable hookup. This service is popularly known as "cable television". Most cable companies are including as part of their service the signal of educational Channel 11. Many communities do not have cable television but have had company petition for permission to provide such service. Most of the charters include agreements on the part of the CATV operator to provide at least one service outlet, free of charge, to each school building within the community to be served. Administrators should be aware of this precedent, and request that such services be provided for each attendance center if it is not included as part of the proposal for franchise.

The service, in effect, provides each school with an excellent, trouble-free picture regardless of the school's distance from the originating station. The school is further saved the cost of antenna equipment, if indeed the station can be received at all. The school must only run cables to those classrooms desiring television service. This is often done at a low cost by the CATV operator.

MISCELLANEOUS:

1. Provide teachers' guides for each teacher and subject area; urge their constant use.

2. For inservice help for teachers, contact the curriculum section of the State Department of Public Instruction and/or higher education faculty.

3. Total teaching is not the purpose of the ETV services, but to supplement and enrich classroom teaching and learning.

4. Urge teachers to offer suggestions for improvement of the programs they use, as aids for developing the coming year's program.

5. ETV teaching is a team approach: administrators, station personnel, TV teacher, and receiving teacher.

6. The TV lesson presented is not complete in itself; to be most effective it needs reaction from pupils and supplementing in various ways.

7. A varied approach to learning is better than a single approach; use multi-media including educational television.

8. The TV screen should be placed high enough or classroom seating should be staggered so that the image on the screen is in full view of each pupil.

9. Consultant service for both engineering and educational phases of ETV programs is available. Contact the State Department of Education.

10. Some financial assistance in acquiring television equipment may be obtained under certain Federal programs. Contact the State Department of Public Instruction, Instructional Services Division, Dr. George L. Cleland, Director.

A BRIEF AND RECENT BIBLIOGRAPHY:

American Education, Feb. 1965: ETV is Still Just a Promise

American School Board Journal, Sept. 1965: Several articles

Instructional Television. Curator of the University of Missouri. School Of Education, Universty of Missouri at Kansas City. 1965. 25¢

Nation's Schools, Oct. 1965: Special ETV issue

School Management, March 1965: TV is a Teacher's Tool

CLOSED CIRCUIT TELEVISION

"Broadcast television" or "open-circuit television" is sent out from a transmitter, broadcasting from a studio. The program may be "live" --recorded and transmitted instantaneously as it is being presented. Or the program may be recorded on magnetic tape and broadcast at any convenient time thereafter. Tape has the advantage of making it possible to edit the tape, to remove any mistakes. The signal may be broadcast from a tall tower, from an airplane flying in a regular pattern over a certain area, or it might be "bounced off" a satellite in space, such as the Early Bird. The signal travels in a straight line, so having the broadcasting source as high as possible is desirable. Broadcast television in general is cheaper per pupil than closed-circuit.

"Closed-circuit television" may be transmitted through a coaxial cable from the point of origin to the television receiver, or may be transmitted by means of a microwave sending and receiving apparatus. Coaxial cable is preferable for close-together installations. Microwave is preferable over long distances where it is too expensive to lay the cable. Microwave would be used to cover a unified district with a number of attendance centers, or over a region composed of a number of unified districts. The screen image from closed-circuit TV is generally superior to that of broadcast TV because of less interference. Depending on the camera, closed-circuit TV may be set up to transmit multiple programs over one cable. Combinations of live broadcast TV, videotaped programs, and live local programs may be used over closed-circuit systems. Transmission facilities may be leased from the telephone company, or they may be constructed and owned by the school district. Closed-circuit TV does not require licensing by the Federal Communications Commission.

A special type of closed-circuit system is the "2500 megacycle" operation. The first cost is much less than broadcast television and does not require FCC license or licensed operators. This type of system is usually constructed and owned by a school district. The facilities can not be leased from the telephone company. This is a microwave installation and has a usable radius of about 25 miles. More distant schools can be reached by adding booster units. For example, a system in Utah is to serve almost the entire state. Additional channels, up to a total of five can be added at the cost of one studio. No additional equipment is needed in a building for receiving other channels.

For technical assistance in laying out television facilities for a unified district or a combination of districts, consultant service is available from various engineering and educational sources. If no service is at hand, contact the State Department of Public Instruction for recommendations.

WHAT OF THE FUTURE?

Channel 8 in the Wichita-Hutchinson area is expected to be activated in the fall of 1966. The plan is to connect that station with Channel 11 in Topeka with a microwave link. It will be possible to carry programs scheduled on Channel 11 or ones carried independently on Channel 8. When the two stations become operative together, they will cover about 75% of the school population of the State of Kansas.

The technology of television, as in other areas, is rapidly changing. Among the possibilities are the tapes narrower than the 2" commercial videotapes. 1" tapes and equipment are available at present, and a comparatively new introduction is the ½" tape, with light equipment and at a much lower price. However, these tapes and equipment are not compatible with

each other, nor is the quality of the image entirely up to the quality most viewers are accustomed to. Caution is recommended, and consultant service, both educational and engineering, should be sought by those not familiar with the field.

Stations allocated by the Federal Communications Commission to the State of Kansas, as listed in the Television Digest February 14, 1966, are: (Asterisks (*) indicate channels reserved for non-commerical educational use. Plus (+) and minus (-) symbols after VHF channels designate offset carrier positions. Offset designators for UHF channels will be assigned by FCC later.)

Channels	VHF	UHF		VHF	UHF
Chanute		*30	Lincoln Center	*9	
Columbus		*34	Manhattan		*21
Dodge City	6+	*21	Oakley		*15
Emporia		*25	Phillipsburg		*22
Garden City	11+ 13-		Pittsburg	7+	
Goodland	10		Pratt		*32
Great Bend	2		Salina		18 34 44
Hays	7-	*14	Sedan		*28
Hutchinson	*8 12	36	Topeka	*11 13+	29 58
Lakin	*3		Wichita	3- 10-	*15 24 33

By checking this list, one can see the potential for educational broadcasting in the State. Here is information for future planning.

Instantaneous information retrieval is the goal toward which present technology, including that of television, is moving. With multi-channel transmission, several programs can be available for any and all teachers in the system receiving the programs. The teacher would need only to tune in to the choice of the several programs. Some of the programs could be taken from broadcast sources, some from videotape or film, and some from live presentations. Such a system could also make available duplicate programs for duplicate classes during the day, wherever departmental teaching is done.

Color television is also a possibility. Station KTWU is planning color broadcasting for the coming school year, in an experimental way.

ETV HISTORY IN KANSAS

It might be well to pause a moment in recognition of the numerous individuals, organizations, and institutions in the State who have contributed to the progress of educational television to date. In 1951 the University of Kansas and Kansas State College cooperated in organizing a joint committee on ETV, and through the Board of Regents made requests of the legislature for establishing two stations. Other requests were made of succeeding legislative sessions. The Universities were successful in getting allocations of channels by the FCC, but have been unsuccessful in getting appropriations from the legislature to implement facilities and programs. The state PTA organization has been active in boosting a state ETV program, as well as the State Association of School Boards. The Kansas State Teachers Association and its subsidiary groups have been active, along with the State Department of Public Instruction in giving overall assistance and approval.

After years of attempts to obtain approval and appropriations from the Kansas legislature, the session of 1959 appropriated funds for a feasibility study which was carried out in 1960. The bill for establishing a state ETV network, the outcome of the 1960 survey, died in the House. Another bill introduced in 1963 passed the Senate, but failed in the House by one vote. This ended the major consideration of educational television by the legislature.

Station WIBW-TV of Topeka had previously offered its abandoned tower and transmitter to the State of Kansas as a starter for the state ETV facilities. Upon the failure of the legislature to provide for a state network or an Authority to get a program started, WIBW-TV offered their facilities to Washburn University. Their offer was accepted, and plans were under way which culminated in the present Station KTWU, Channel 11. Channel 8 of the Wichita-Hutchinson area is being made available, hopefully by the fall of 1966.

Experimentation with ETV has been carried out in the state for a number of years. Among the public schools the Wichita system carried on a program in four elementary schools under a Ford Foundation grant. They next experimented with closed-circuit in the same four elementary schools, then shifted their CCTV experimentation to one of their high schools for several years. Kansas State College of Pittsburg has experimented with closed-circuit in teacher education instruction since 1954. They conducted a Title XI Media Institute in CCTV in 1965 and are scheduled for another such institute in 1966. Kansas State Teachers College of Emporia has experimented also with CCTV in teacher education for several years. The University of Kansas Medical Center has gained wide recognition with their use of closed-circuit in medical and surgical teaching. They are now operating a two-way microwave hookup with the parent campus at Lawrence. The Parsons State Hospital also uses CCTV.

The UHF programs of Channel 19 of the Kansas City, Missouri public schools have been used by a number of schools in nearby Kansas counties. A Nebraska station broadcasts an acceptable signal to the general Kansas area of Oberlin-Hill City-Phillipsburg-Smith Center. In both of these areas there are problems of obtaining the teachers' guides for proper utilization of the lessons, and coordinating the programs with local and state curriculum. There are also ethical considerations in the use of all such broadcast ETV programs without financial participation in the support of such programs. It is earnestly to be hoped that school districts will not use ETV programs without paying their share. Besides, the stations need the financial support.

Certain programs, notably those of the UHF station of Kansas City, Missouri, are available by cable in the general Clay Center-Concordia-Manhattan-Junction City area. Others, including Channel 11 of Station KTWU, will no doubt be available later.